

## Patent Abstracts of Japan

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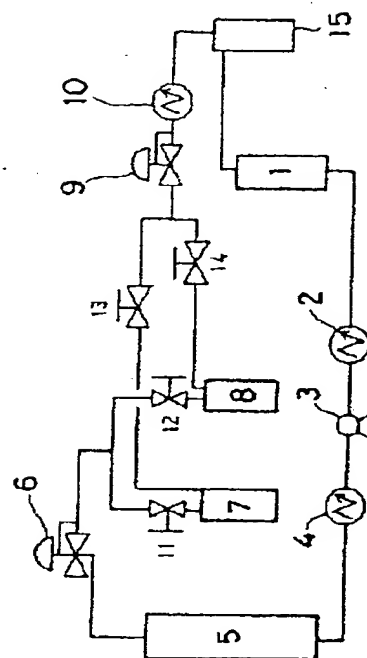
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TITLE : METHOD FOR EXTRACTING AND  
SEPARATING COLORING MATTER  
FROM KRILL



ABSTRACT : PURPOSE: To prepare a reddish orange coloring matter having a high safety in a high concn. by extracting, with CO<sub>2</sub> in a supercritical state, krill shells of which the protein has been decomposed by a protease.

CONSTITUTION: Krill shells are treated with a protease to decompose the protein in the shells and the treatment product is filtered. The residue of filtration is dried to give treated shells having a water content of 6-8% and a mean particle size of 200  $\mu$ m or lower. The treated shells are put into an extraction vessel 5. An extractant comprising a liq. CO<sub>2</sub> in an amt. of 30-40 pts.wt. based on one pt.wt. treated shells having a coloring matter concn. of 30 mg/100 g is supplied through a supercooling apparatus 2 to a pump 3, pressurized at the pump 3 to 100-250 kg/cm<sup>2</sup>, heated with a heat exchanger 4 to 35-40°C to bring it into a supercritical state, and transferred to the extraction vessel 5 to extract an oil in the treated shells. After the pressure of the oil-contg. CO<sub>2</sub> in the supercritical state is reduced to 40-60 kg/cm<sup>2</sup> with a pressure reducing valve 6, the CO<sub>2</sub> is delivered through a selector valve 11 to the first separating vessel 7 to separate the oil, and recycled through a selector valve 13, a pressure reducing valve 9, a condense 10, a water separator 15, and a storage vessel 1 to the extraction vessel 5. Then, selector valves 11 and 13 are closed while selector valves 12 and 14 are opened, and the CO<sub>2</sub> contg. the coloring matter is transferred to the second separating vessel 8, where the CO<sub>2</sub> is evaporated to give a coloring matter with a concn. of 2000-10000 mg/100g.

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